



National Aeronautics and
Space Administration
Lyndon B. Johnson Space Center
Houston, Texas



Brain strain

JSC employees team up with students to enter national robot competition. Story on Page 3.



Cruises offered

The Employee Activities Association is sponsoring cruises to Alaska and the Caribbean. Photo on Page 4.

Space News Roundup

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Coleman to train as back-up for Thomas

By Eileen Hawley

Astronaut Cady Coleman has begun training as a backup Mission Specialist to Don Thomas who suffered a broken right ankle on Jan. 29 following the conclusion of a routine training exercise.

"We are hopeful that Don will be cleared for flight," said David Leestma, director of Flight Crew Operations. "He is an experienced astronaut with the majority of his required training for this flight already complete. The decision to assign Cady as backup was made to protect all available options."

Thomas continues to train with his crew mates to support the more than 25 microgravity science investigations that will be conducted on *Columbia's* 16-day flight targeted for an April 3 launch. His training as one of two astronauts who would perform any required contingency EVA was complete before the injury occurred.

"Cady's previous shuttle experience makes the amount of training required to bring her up to speed minimal," Leestma said. Coleman, 36, has begun refresher EVA training and familiarization with the science investigations to be conducted on STS-83.

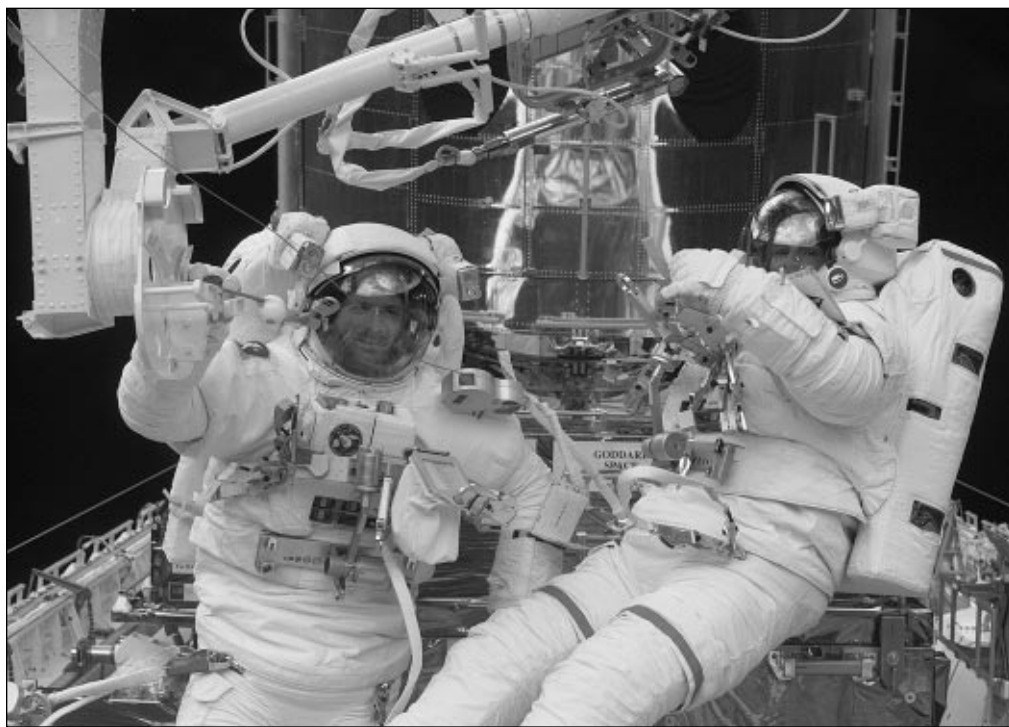
The STS-83 crew consists of Commander Jim Halsell, Pilot Susan Still, Payload Commander Janice Voss, Mission Specialist Mike Gernhardt, and Payload Specialists Roger Crouch and Gregory Linteris.



Thomas



Coleman



NASA Photo STS82-E-5572

From left, Astronauts Steve Smith and Mark Lee look back at crew mates inside *Discovery* during the third space walk of STS-82. In all, four space walkers logged 33 hours and 11 minutes during the five space walks required to refurbish the Hubble Space Telescope, about two hours shy of the first servicing mission. The fifth space walk, which was not in the original STS-82 flight plan, became necessary when the crew noticed tears in the telescope's multi-layer insulation.

Spotlight falls on strategic plans

Dailey, Wisniewski, Abbey host all-hands briefing

The latest information about NASA's plans for the future will be in the JSC spotlight Tuesday when two of the agency's top managers join JSC Director George Abbey for an all-hands briefing.

Abbey and NASA Deputy Administrator Jack Dailey will kick off the two-hour NASA Strategic Management Handbook rollout briefing at 9 a.m. in Teague Auditorium. The presentation will include a 20-minute Walter Cronkite-narrated video on NASA's work as a leader in government strategic planning.

Next, Dailey will talk about the management and planning initiatives under way across the agency.

NASA Deputy Administrator for Space Flight Richard Wisniewski will discuss the Human Exploration and Development of Space enterprise, one of five key elements in the plan.

Following the presentations, the combined panel will answer questions posed by JSC

employees attending the briefing.

Abbey has tentatively scheduled two additional all-hands meetings for early March and April.

The first, featuring a panel of JSC program managers, will be a "State of the Program" look at activities, accomplishments, milestones and challenges expected in the coming year as they relate to the strategic plan.

The second, involving a panel of JSC project leads, will focus on future exploration initiatives—such as the X-38 and life on Mars investigations—and the activities, accomplishments, milestones and challenges they face.

All JSC supervisors will be meeting with their employees to discuss these management and planning activities and their direct relationship to each employee's daily work in preparation for the all-hands meeting with the deputy administrator.

Five space walks update observatory

Astronauts Mark Lee and Steve Smith closed the hatch on a fifth space walk in as many days Tuesday, completing the servicing and refurbishment of the Hubble Space Telescope.

Mission Specialist Steve Hawley redeployed the orbiting observatory at 12:41 a.m. CST Wednesday at an altitude of about 385 by 370 miles, its highest orbit yet.

"Houston, *Discovery*," reported Bowersox, "HST is free to study the stars."

Scientists on the ground uplinked a heartfelt "thanks for a superb job," and immediately began calibrating Hubble's new instruments and preparing for the resumption of scientific operations.

"Our little baby is on its own," said Hubble Program Scientist Ed Weiler.

"The total recommissioning of the observatory will spread out over 16 or 18 weeks altogether," said Hubble Senior Project Scientist David Leckrone. "We hope that by about week 10 we'll have something to show."

The final 5 hour, 17 minute space walk, which was not in the original STS-82 flight plan, became necessary when the crew noticed tears in the telescope's multi-layer insulation.

Working inside *Discovery* with support teams on the ground, Pilot Scott Horowitz and Payload Commander Mark Lee had fashioned large patches from smaller contingency patches carried in the shuttle's hardware bins. Lee and Smith floated outside to tie them down over three Support Systems Module compartments containing key data processing, electronics and scientific instrument telemetry packages.

"We have pretty good confidence this will last until the next time we can go up there," said Michael Weiss, Hubble systems servicing manager, referring to the next planned servicing mission in 1999.

Lee and Smith almost received the "go" for a record sixth space walk while they were repressurizing the airlock as flight controllers evaluated a possible glitch with one of Hubble's four Reaction Wheel Assembly units that are used to maneuver the telescope for its scientific observations. After it was decided that further analysis was needed, the pair reentered *Discovery's* crew

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Linenger says running in microgravity harder than it looks

Mir 22 Flight Engineer Jerry Linenger is knee-deep in his experiments aboard the Russian Mir Space Station and adjusting to his microgravity environment.

"The first couple of weeks it was very, very difficult to run on the treadmill," Linenger said during an interview last week. "It is a lot tougher than I thought it would be, but now I kind of feel I am back to my old [exercise] pace and I feel real good."

Linenger reported that his days are very busy and was surprised to find that he has little time to pursue his interest in the geography of the planet below.

"There is no free time to just go hang out and look out the window or do some other diversion sort of things," Linenger said. "I still have plenty of interest in looking out the window because I've only done it maybe once a day. I am not sure five months is going to be long enough up here."

Linenger and his Mir 22 crew mates—Commander Valery Korzun and Alexander Kaleri—welcomed the Mir 23 cosmonauts—Commander Vasily Tsibliev, Flight Engineer Alexander Lazutkin



and Cosmonaut Researcher Reinhold Ewald—aboard the orbiting laboratory last week. The joint crews will conduct a variety of experiments for two weeks and Korzun and Kaleri will pack up their belongings for the trip home to Russia with Ewald.

Mir's atmosphere and the way microgravity affects the station have been the focus of the joint experiments this week.

Once the joint operations are complete and the Mir 22 crew and Ewald leave for Earth,

Linenger and Tsibliev will begin preparations for the first joint American-Russian space walk outside Mir scheduled for April 1.

The two space walkers will mount the Optical Properties Monitor experiment. This experiment will measure the effects of space on materials, ranging from mirrors used in telescopes to coatings used on spacecraft.

"The experiment will set the stage for how astronauts and cosmonauts will work together on the International Space Station," said Steve Davis, project manager at NASA's Marshall Space Flight Center.

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JSC prepares for ISO 9001

By Leon Blum

Activities leading to ISO 9001 registration are well under way at JSC and the ISO 9000 Office has been busy trying to increase managerial and employee awareness.

To increase everyone's knowledge about ISO 9000, a copy of the "Mini-Guide to ISO 9000" was sent to every employee at JSC in August 1996. The guide provides an easy to read explanation of the 20 elements that make up the ISO 9001 standard. It also answers basic questions about the ISO standards and guidelines. While the mini-guide is not the only source of information, it is useful and handy. The guide has

been well received, and additional copies are available from the ISO 9000 Office.

ISO 9000 informational posters are showing up in lobbies and hallways all over the center. They provide a pictorial organization of the ISO 9000 documentation processes and procedures. The posters describe what the various ISO 9000 documents cover and how the documents are related. The posters encourage greater familiarity with the ISO elements and the JSC Quality Manual.

JSC also has initiated the internal review of documented processes

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Daniel Goldin

Quality conference to focus on change strategy

The American Society for Quality Control will host a two-day conference on Quality in the Space and Defense Industries March 3-4 at the South Shore Harbour Resort and Conference Center.

The focus of this year's conference is "Rapid Change—Using Quality as a Strategy for Success." Attendees will learn how to incorporate the new approaches and partnering ideas that are emerging between NASA and the Department

of Defense. Private organizations will learn from the government and industry leaders who are setting up new initiatives and establishing the environment of change. The conference is designed so that participants can have direct interaction with featured speakers.

The conference will be open with welcoming remarks from Charles Harlan, retired director of safety, reliability and quality

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